

**Abstract**

Methods and apparatus for generating and transmitting frequency division multiplexed signals are described. The methods are well suited for use where a device uses a small subset,  $M$ , of a larger set of  $N$  subcarrier frequencies at any given time. Each transmitted FDM signal is generated by combining a plurality of individual analog subcarrier signals whose frequency may change, e.g., be hopped as a function of time. Each generated analog subcarrier signal is amplified, e.g., power amplified, and filtered prior to being combined with other analog subcarrier signals. Filters are used to compensate for or correct signal distortions and/or reduce interference between subcarriers. Fixed frequency filters are used in an exemplary frequency hopping OFDM system. In another embodiment, the filters are programmable and change, e.g., in terms of center frequency, to match the selected subcarrier frequency as frequency hopping occurs. The bandwidth of the programmable filters may remain constant.